

South Dakota 2008 Local Roads Needs Study

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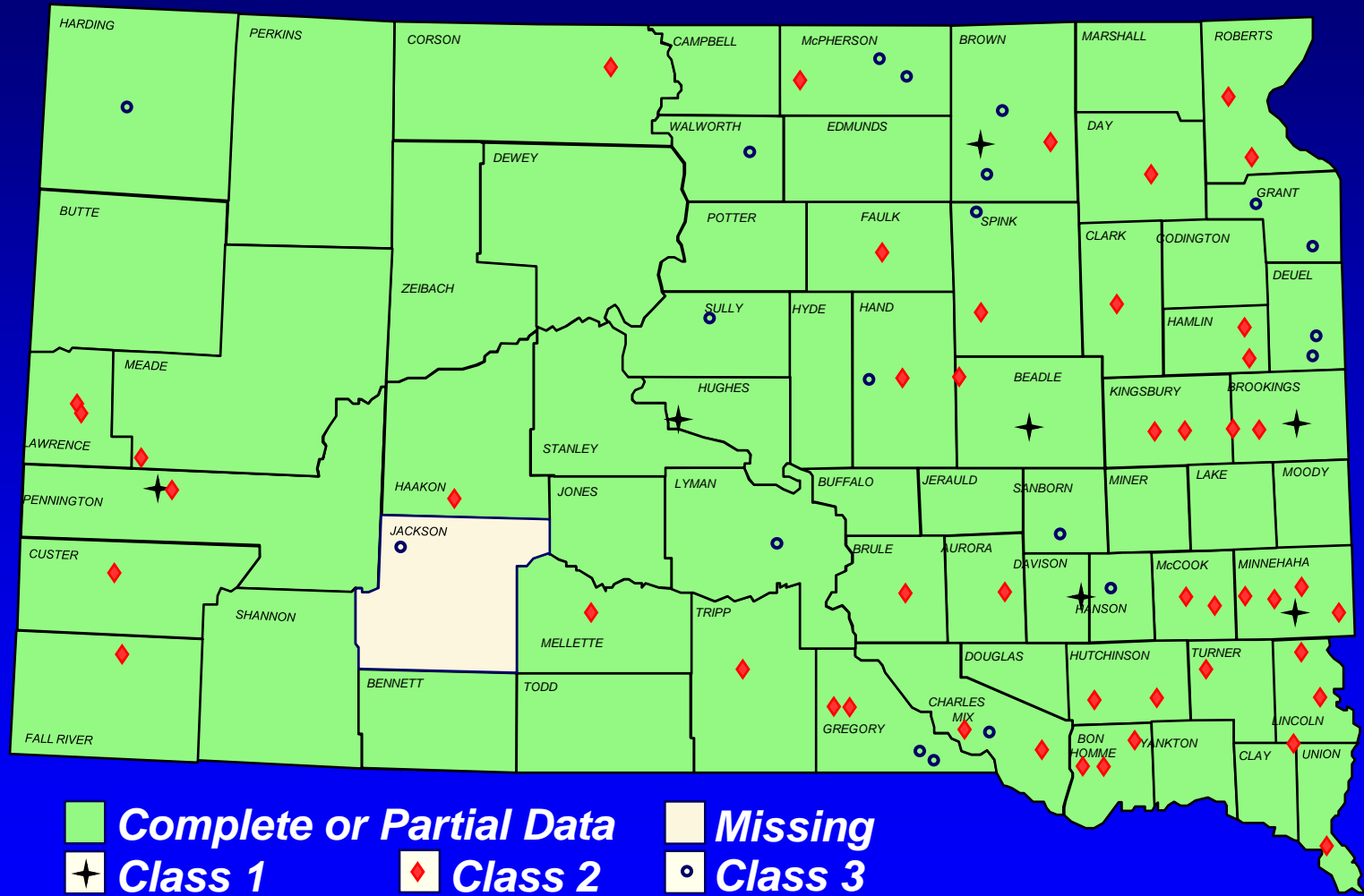
**SD Highway Short Course
March 12, 2009**

2008 Interim Study on Highway Needs and Financing

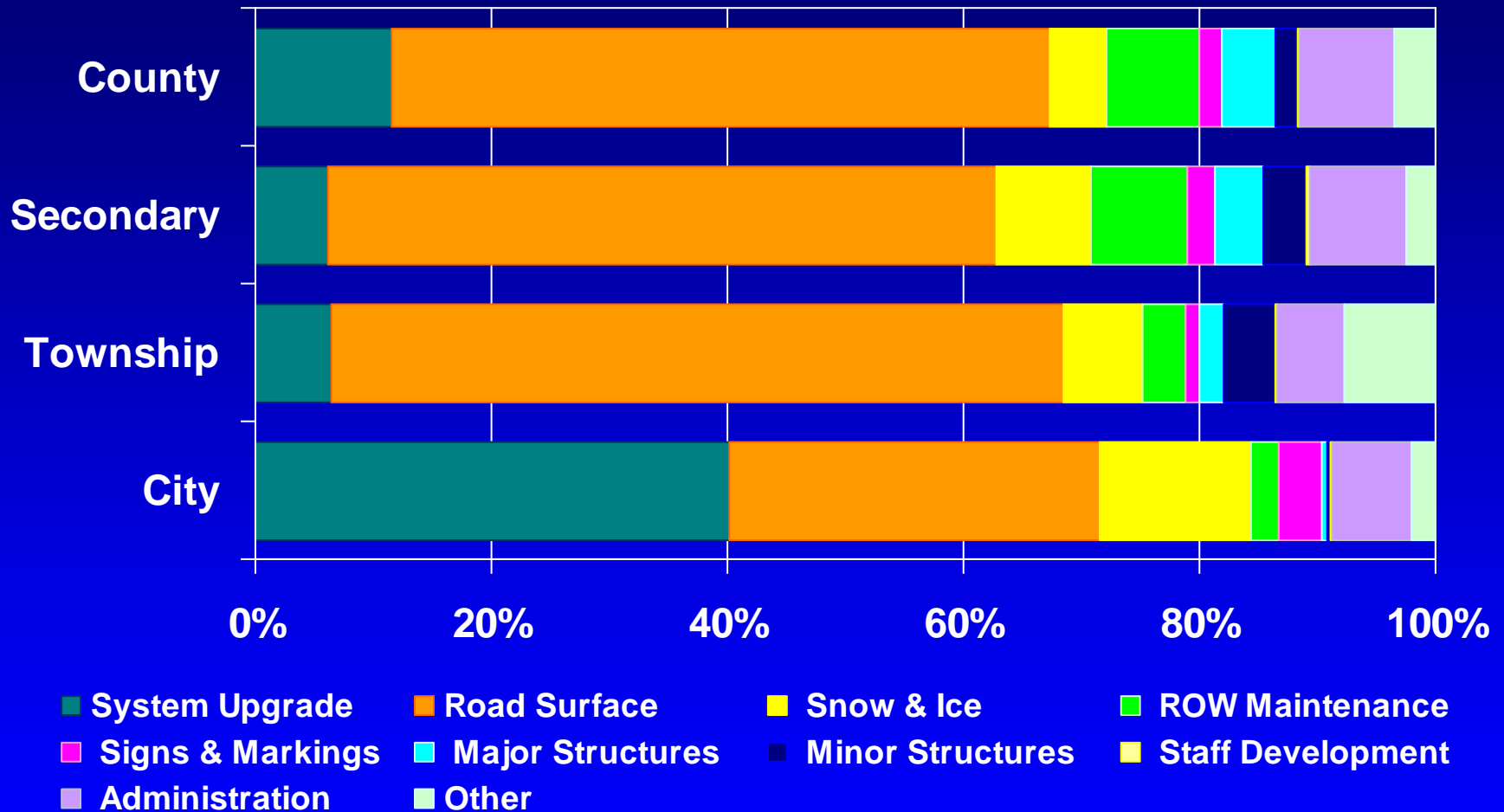
Scope:

- projected long term state and local highway needs
- allocation and distribution of responsibility for all highway segments within the state
- future state and local highway cost projections compared to projected revenue
- strategies for creating greater efficiency in financing state and local roads
- strategies to promote the development of innovative ideas aimed at reducing highway funding needs

Local Agency Survey Responses



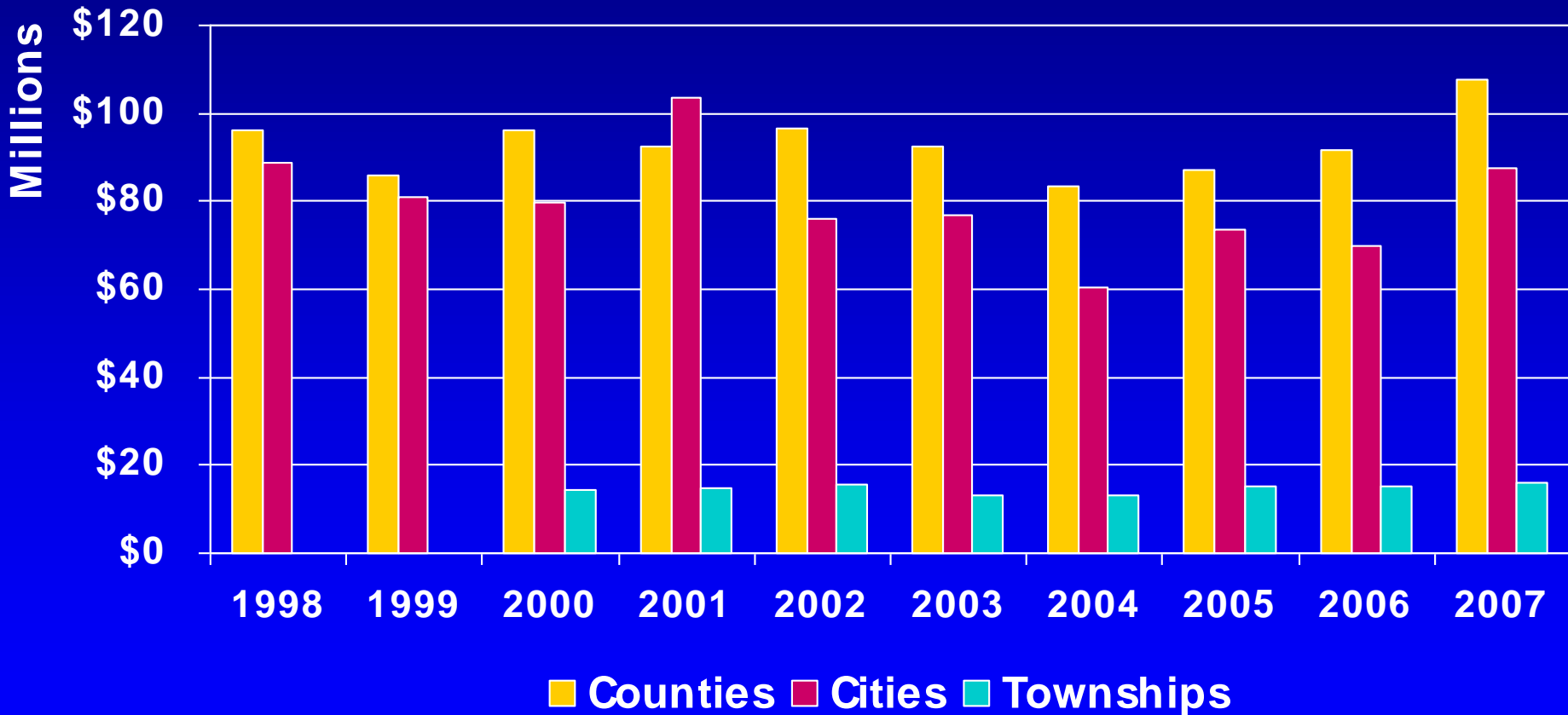
Reported Distribution of Expenditures



Local Road & Bridge Expenditures

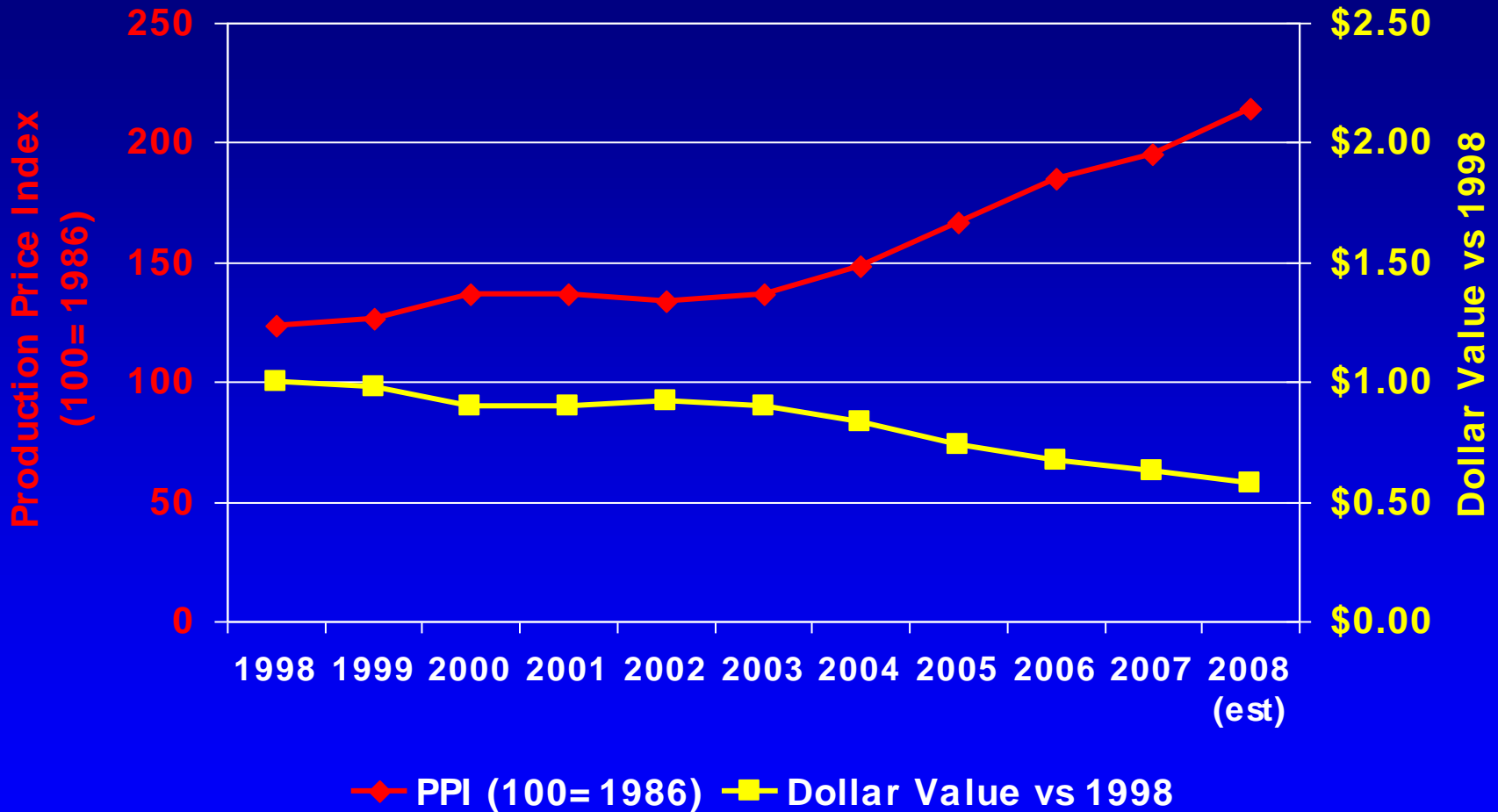
(derived from Legislative Audit Database)

Estimated, Current Dollars

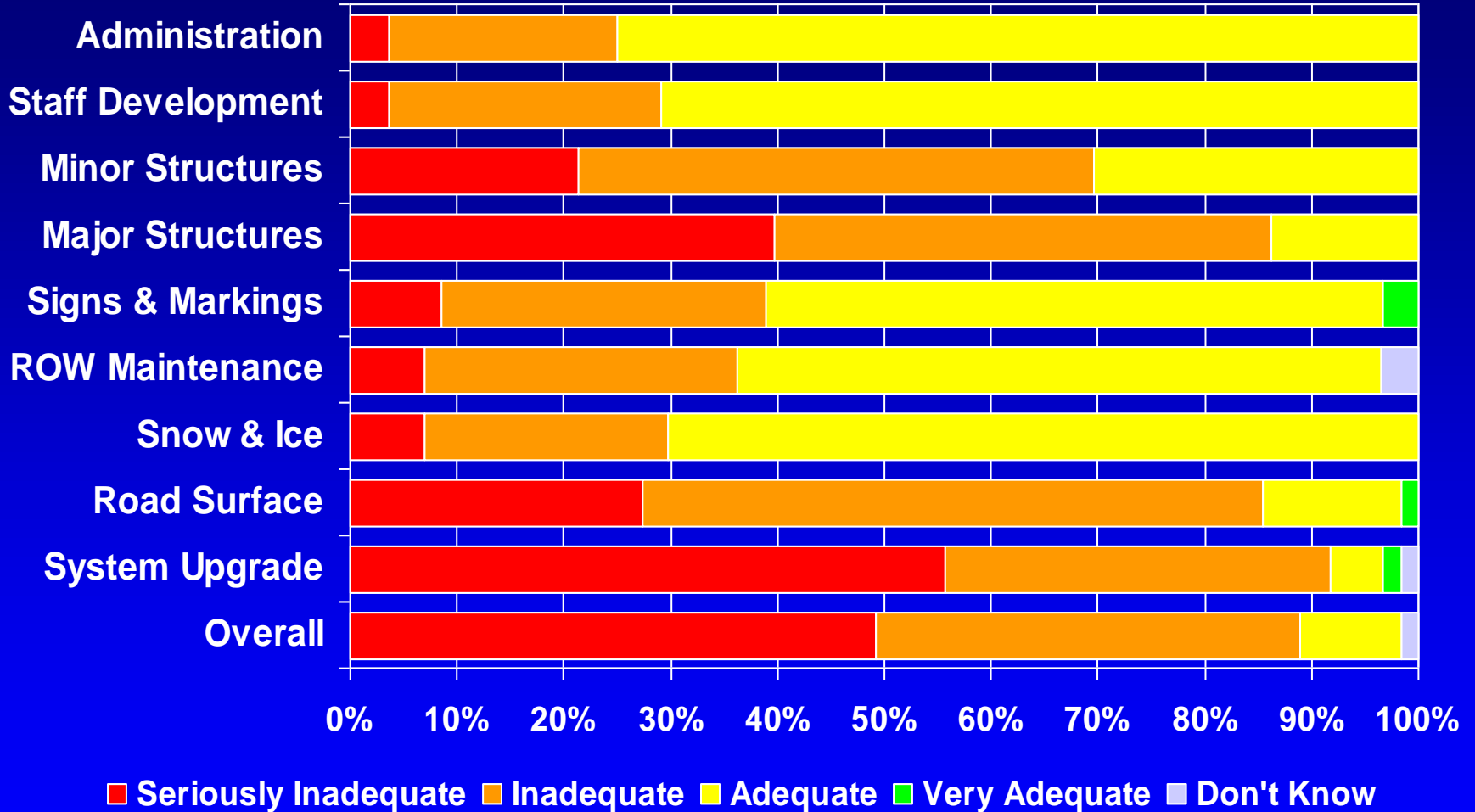


Highway Construction Production Price Index

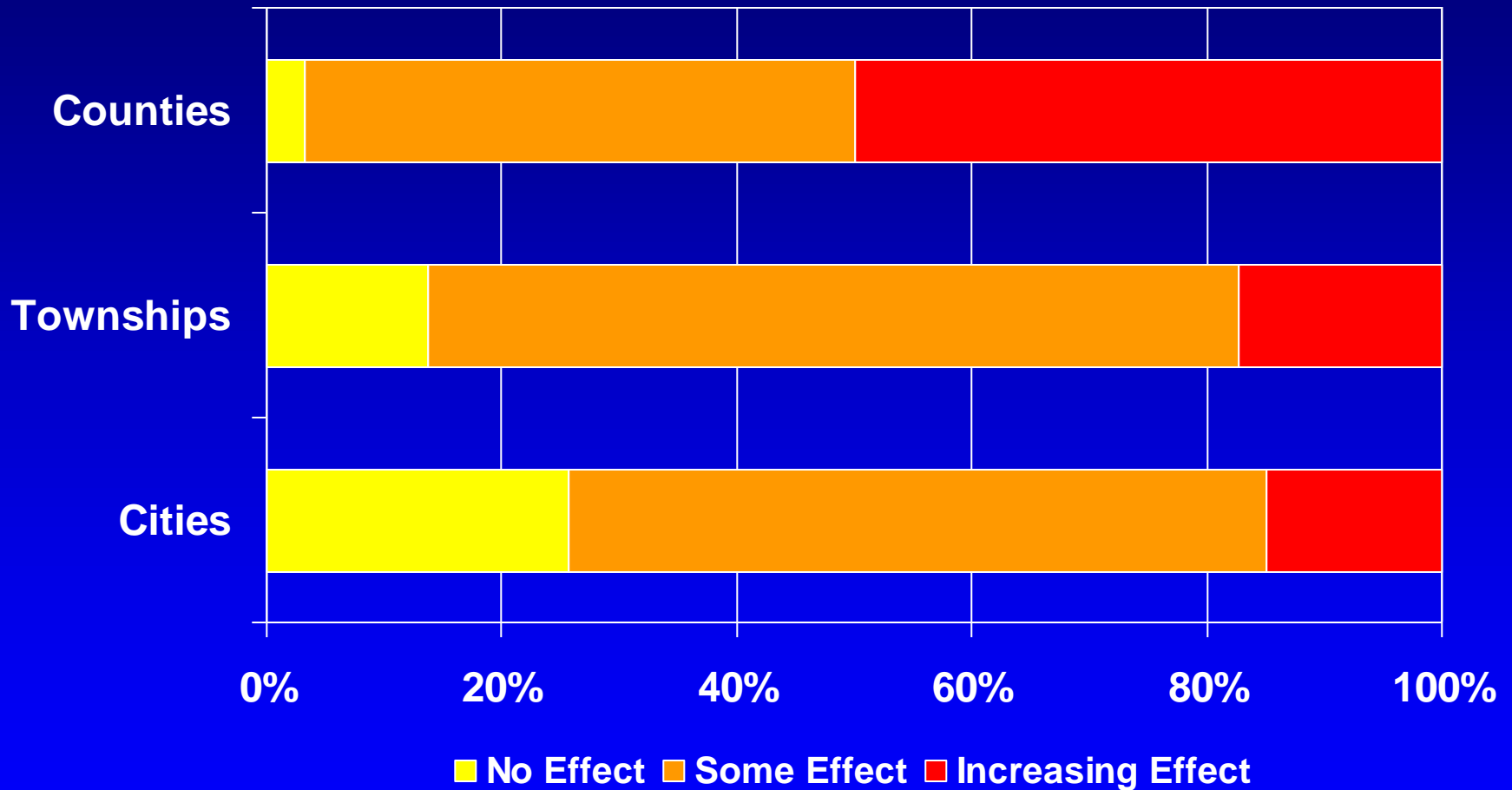
Price Index (US Bureau of Labor Statistics)



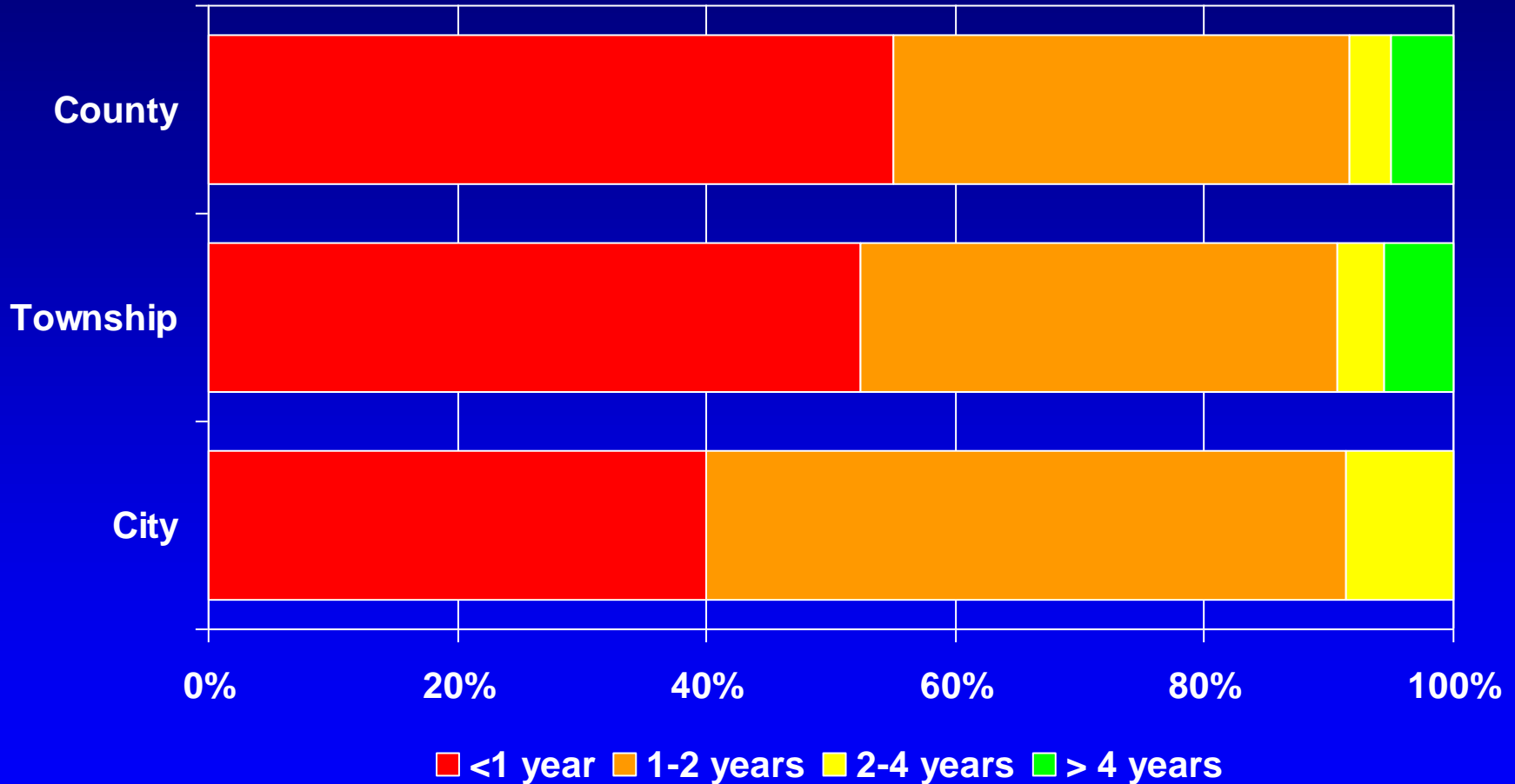
Counties: Perceived Adequacy of Revenues



Funding Level Effects on Liability Risk (striping, signing, spot improvements)



Advance Knowledge of Needed System Upgrade/Expansion



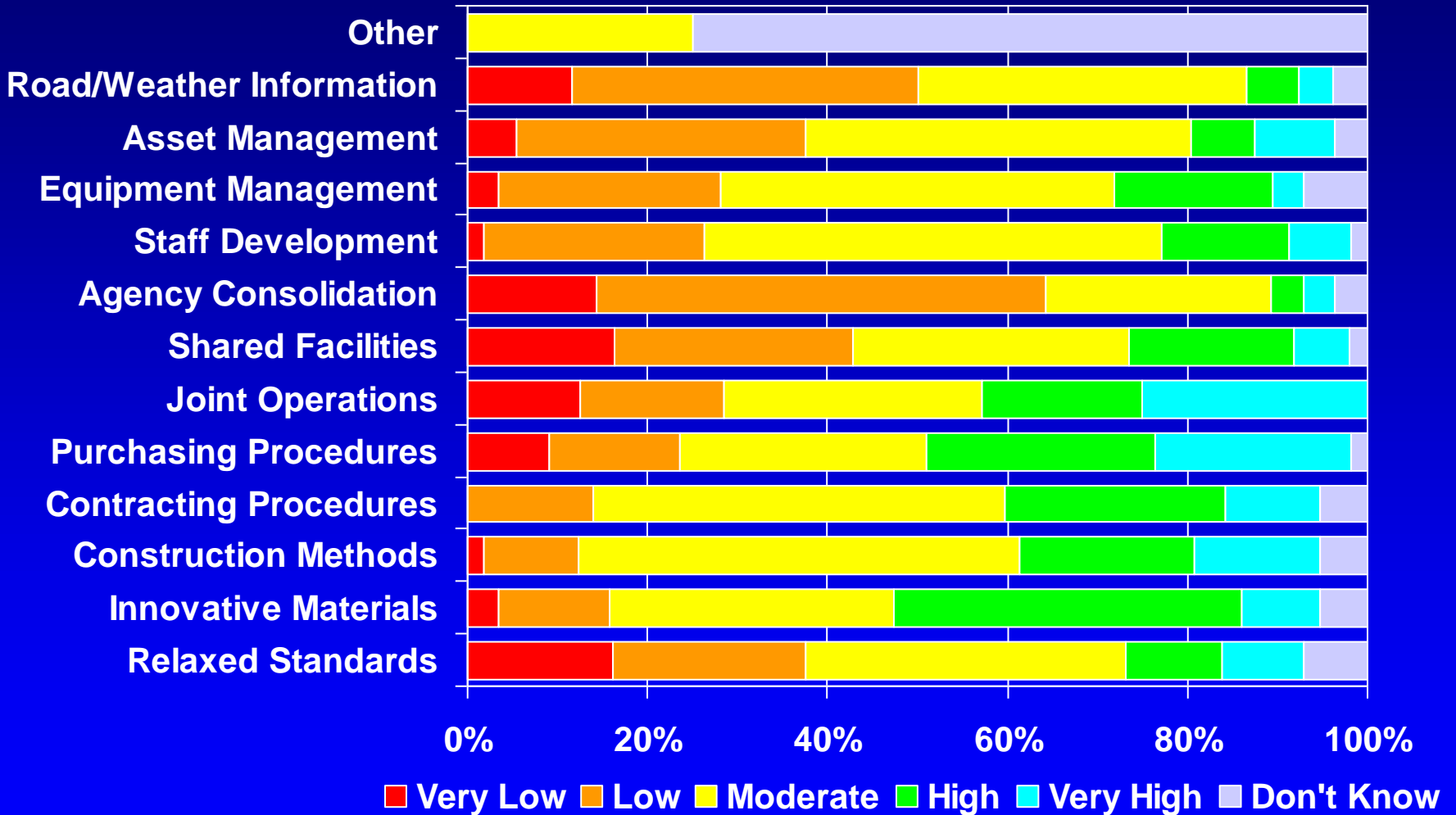
Rural Development Pressure Example (Deuel County, Blom Township)



Perceived Opportunities for Funding

- **Vehicle registration fees**
- **Wheel tax**
 - Increase maximum charge (currently \$4/wheel)
 - Allow more wheels taxed (currently 4 per vehicle)
 - Adopt in more counties or on statewide basis
- **Property tax**
 - Opt out of tax freeze
 - Non-highway needs compete for limited funds
 - Some counties have large public land proportion
- **Cost sharing by developers**

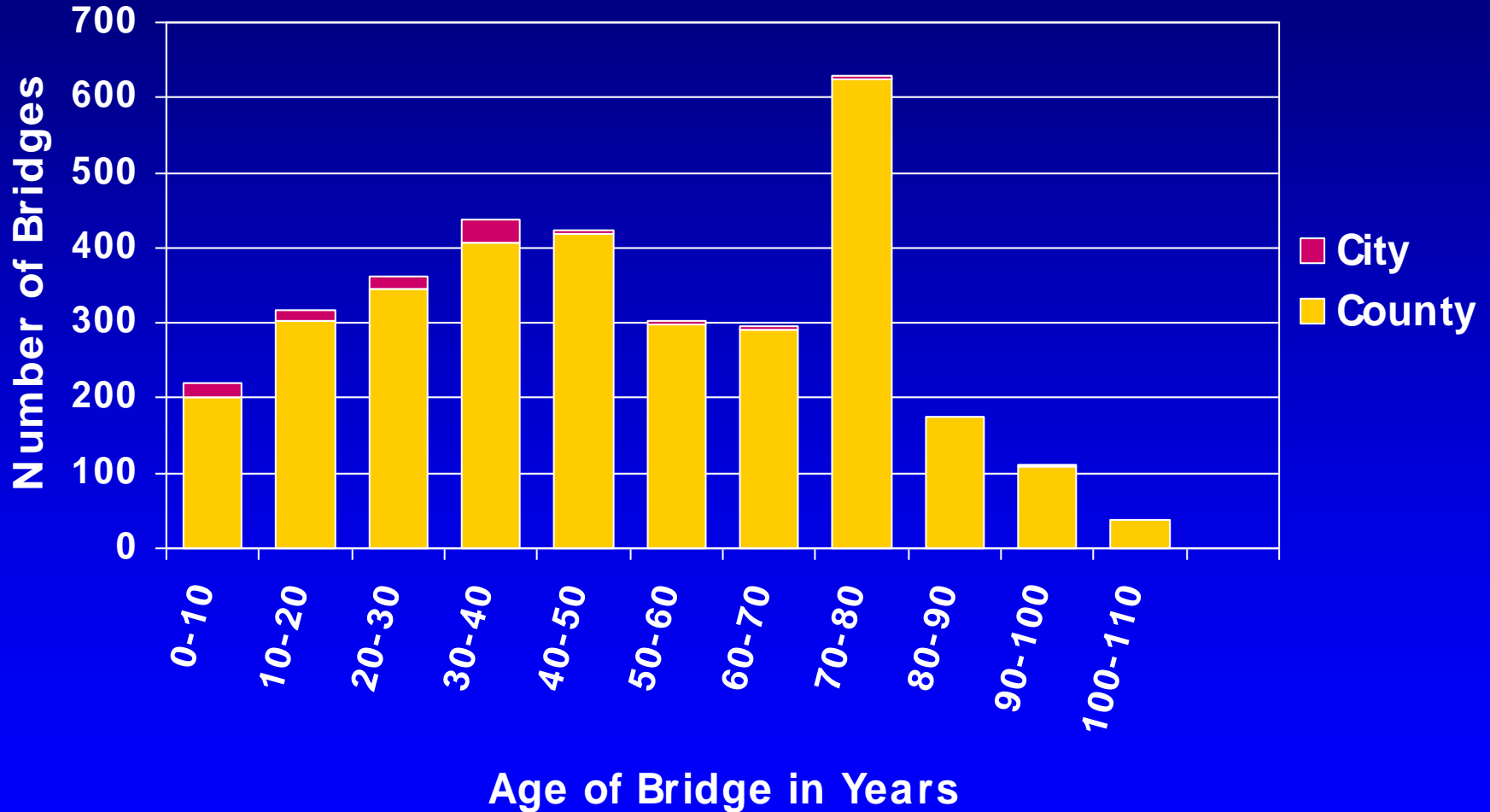
Counties: Opportunities for Efficiency



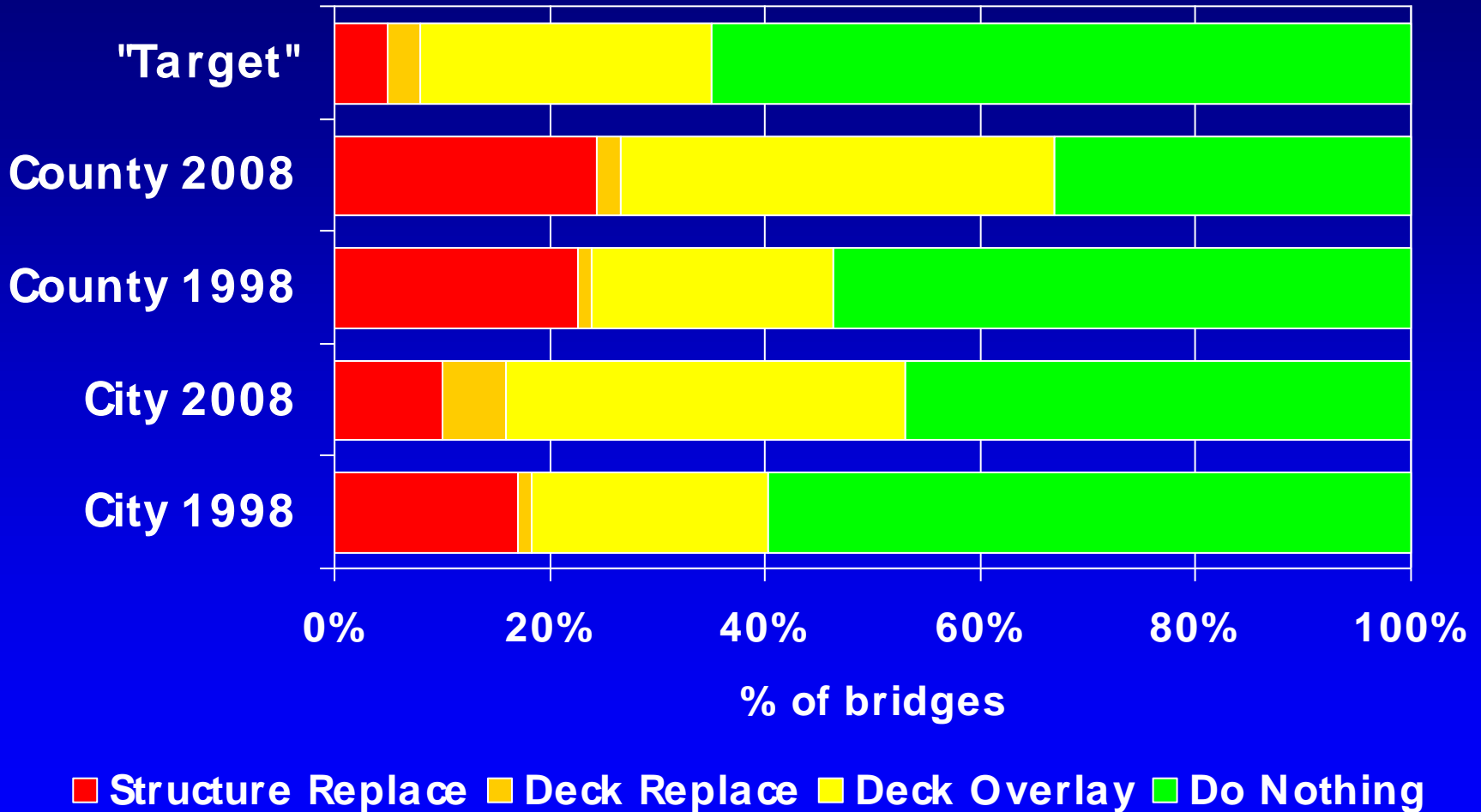
Bridge Need Assessment

- 20-year analysis
- Numbers reflect only structural needs
- Other bridges have functional deficiencies
 - Width
 - Number of lanes
 - Inadequate clearance
- 1098 county bridges are posted for weight
- 139 are recommended to be posted
- 8 county bridges are recommended for closing

Local Bridge Age Distribution (72% of all bridges, 40% of all deck area)



Local Bridge Conditions



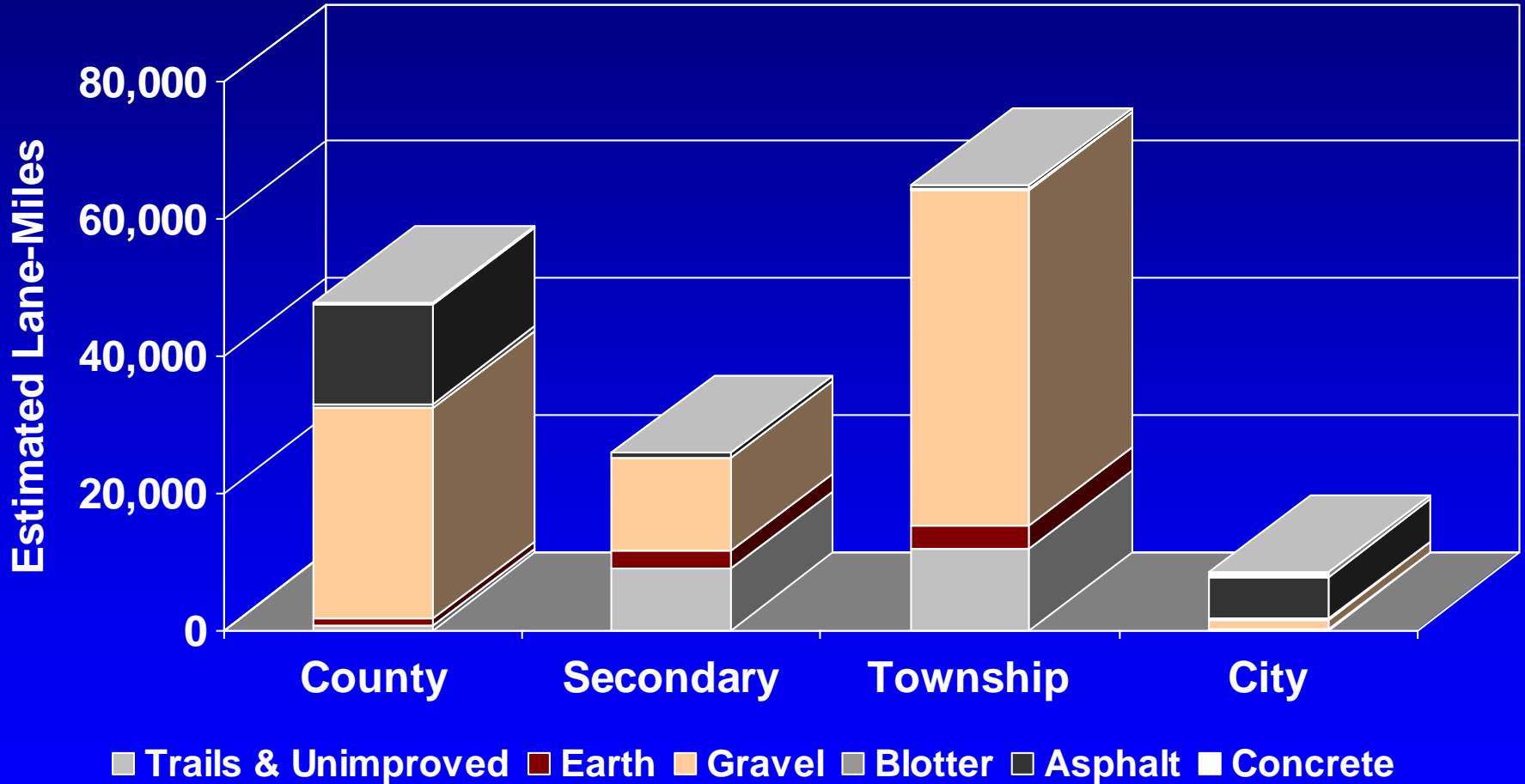
Major Structure Needs on Local Systems

Jurisdiction	Bridges	Culverts	Total	Annual Need
County	\$475 M	\$11 M	\$486 M	\$24.3 M
City	\$14 M	\$0 M	\$14 M	\$0.7 M
Total	\$489 M	\$11 M	\$500 M	\$25.0 M

Road Surface Need Assessment

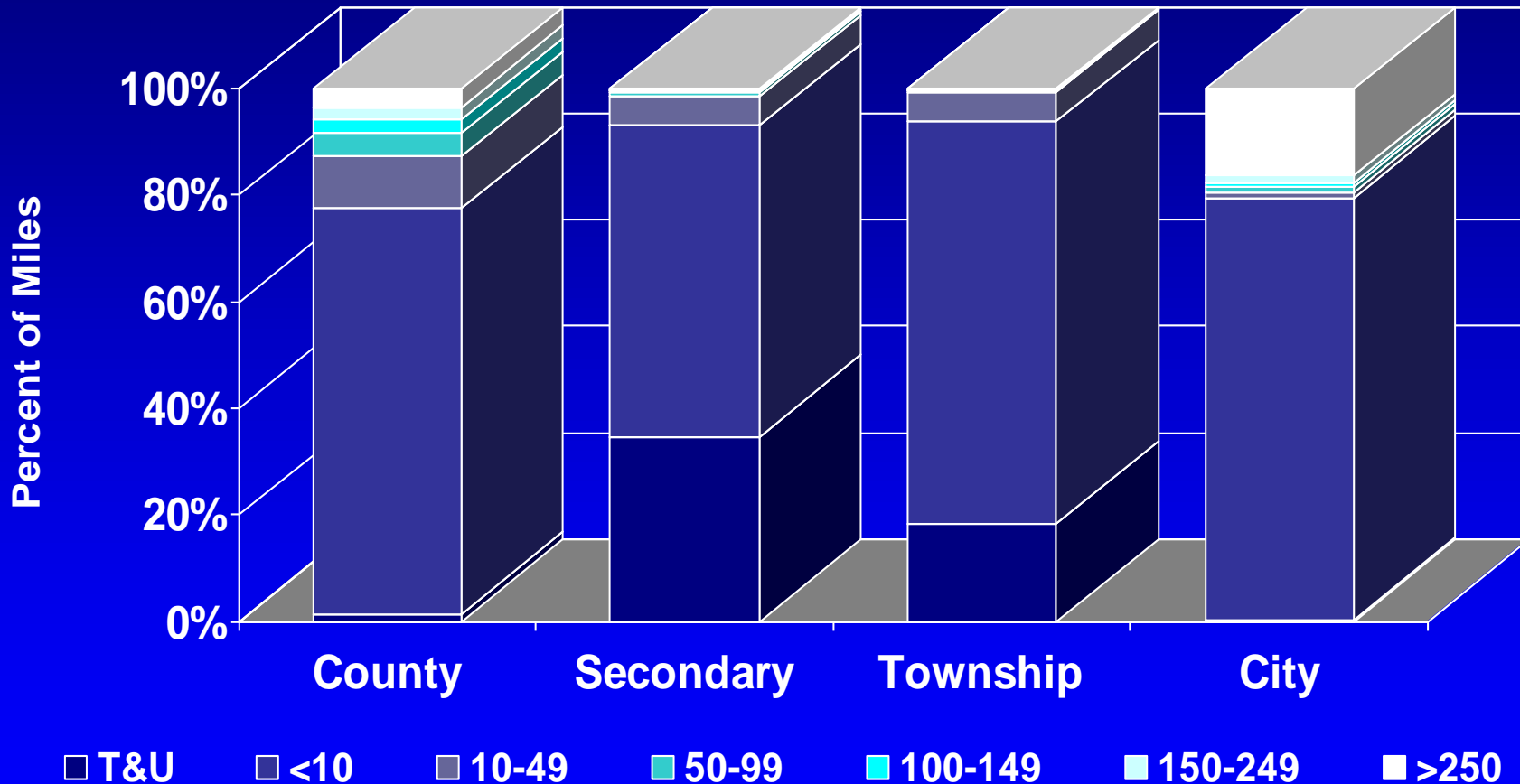
- **20-year analysis period**
- **Based upon**
 - **SDDOT local road inventory**
 - » **Surface type for improved roads**
 - » **Average daily traffic category**
 - » **Surface width**
 - **2008 condition reported by local officials**
 - **SDDOT estimates of rehab treatment unit costs**
 - **SDLTAP estimate of unpaved surface maintenance unit costs**
 - **SD Secondary Road Plan**

Local Road Inventory (88% of all state road mileage)

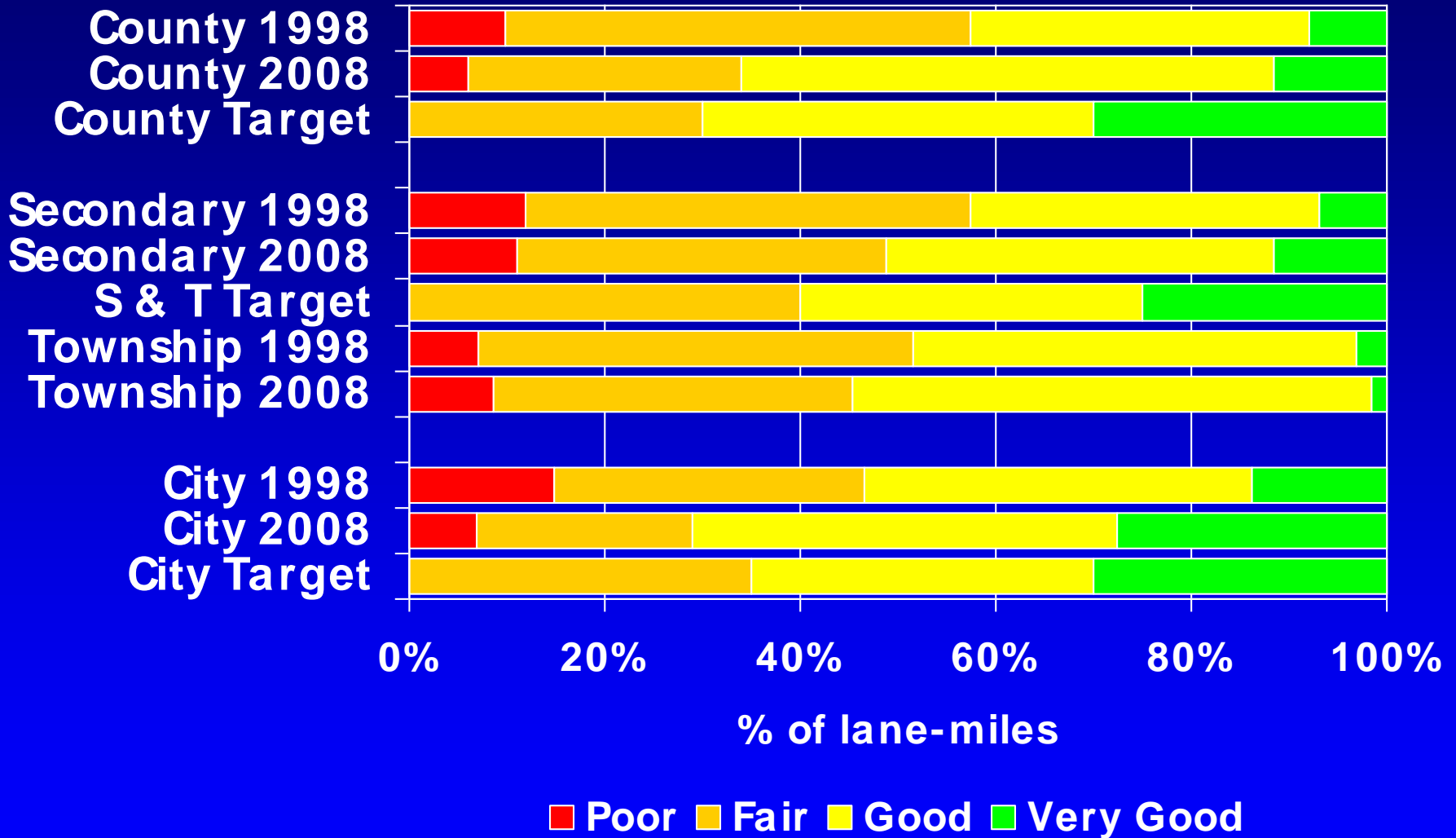


Local Road Traffic Volumes

(30% of all miles traveled, 24% of truck miles traveled)



Road Surface Conditions



Annual Road Surface Needs (balanced investment strategy)

System	To Maintain Current Condition			To Achieve Target Condition		
	Rehabilitation	Maintenance	Total	Rehabilitation	Maintenance	Total
County	\$56 M	\$21 M	\$77 M	\$68 M	\$21 M	\$89 M
Secondary	\$4 M	\$3 M	\$8 M	\$6 M	\$3 M	\$9 M
Township	\$10 M	\$10 M	\$20 M	\$13 M	\$10 M	\$23 M
City	\$24 M	\$ 9 M	\$34 M	\$26 M	\$ 9 M	\$35 M
Total	\$94 M	\$43 M	\$137 M	\$113 M	\$43 M	\$156 M

“Balanced Investment Strategy” invests 25% of capital expenditures in rehabilitation of roads in “Good” condition, 25% in roads in “Fair” condition, and 50% in roads in “Poor” condition.

Annual Road Surface & Bridge Needs versus Current Annual Expenditures

	County & Secondary	Township	City	Total
Road Surfaces	\$97.4 M	\$23.4 M	\$34.9 M	\$155.7 M
Major Structures	\$24.3 M	N/A	\$0.7 M	\$25.0 M
Total Needs	\$121.7 M	\$23.4 M	\$35.6 M	\$180.7 M
Estimated Expenditures	\$58.7 M	\$8.8 M	\$32.2 M	\$99.7 M
Shortfall	\$63.0 M	\$14.6 M	\$3.4 M	\$81.0 M

Conclusions: Funding

- **Local officials face serious financial challenges**
- **Most significant challenges concern providing and maintaining road and bridge infrastructure**
- **Funding and expenditure levels have remained fairly constant since 1999**
- **Value of “road dollar” declined >40% 1998-2008**
- **Agricultural, residential, and commercial development places significant demands on local transportation**
- **A shortfall of \$80 million per year exists to achieve target condition**
- **A shortfall of about \$50 million per year exists just to maintain current condition**

Conclusions: Road & Bridge Needs

- Road surface condition improved 1998-2008
- More bridges need treatment in 2008 than 1998
- Bridge and road surface treatment costs have risen dramatically since 2003
- Overall road and bridge needs have increased since 1998
- Condition will deteriorate at current levels of expenditure; gains made 1999-2003 will erode
- A balanced investment strategy is far more effective than a “worst-first” strategy

Conclusions: Opportunities for Efficiency

- **Joint operations**
 - Economy of scale
 - Contracts w/county
- **Shared equipment and facilities**
- **Shared procurement**
- **Innovative materials**
 - Reclaimed materials
 - Warm asphalt
 - Dust suppressants

But Not...

- **Relaxed standards**
- **Organizational consolidation**

Possibly...

- **Staff Development**
- **Asset Management Techniques**

Conclusions: Data Reporting

- **Changes to highway information reporting could facilitate future need assessments**
 - Road inventories lag development in growth areas, abandonment in some rural areas
 - Pending SDDOT research to improve procedures
- **Financial reports are ambiguous**
 - Single “highways and bridges” category
 - City capital improvements grouped with buildings
- **This statewide study did not evaluate individual agencies or their funding allocations**

Project Technical Panel

- **Richard Benda**
SD Dept. of Tourism & Economic Development
- **Robin Bobzien**
American Public Works Assn.
- **Gail Brock**
SD Assn. of Towns & Townships
- **Toby Crow**
Associated General Contractors
- **Larry Engbrecht**
American Concrete Paving Assn.
- **Brenda Forman**
Ag Unity
- **John Foster**
SDDOT Research
- **Bruce Lindholm**
SDDOT Local Programs
- **Ben Orsbon**
SDDOT Office of the Secretary
- **Raymond Roggow**
SD Highway Superintendents
- **Hal Rumpca**
SDDOT Research
- **Ken Skorseth**
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- **Ken Swedeen**
Dakota Asphalt Paving Assn.
- **Yvonne Taylor**
SD Municipal League
- **Todd Thompson**
SDDOT Bridge Design
- **Jeff Des Lauriers**
City of Sioux Falls
- **Bob Wilcox**
SD County Commissioners Assn.
- **Dale Tech**
SD Street Superintendents Assn.

Questions?

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